

APPENDIX A

**Article 2, Chapter 5.1 of Title 2.1 of the Code of Virginia and
Item 405 of the 2000 Appropriations Act**

§ 2.1-51.12:1. Development of strategies to restore the water quality and living resources of the Chesapeake Bay and its tributaries.

The Secretary of Natural Resources shall coordinate the development of tributary plans designed to improve water quality and restore the living resources of the Chesapeake Bay and its tributaries. Such plans shall be tributary specific in nature and prepared for the Potomac, Rappahannock, York, and James River Basins as well as the western coastal basins (comprising the small rivers on the western Virginia mainland that drain to the Chesapeake Bay, not including the Potomac, Rappahannock, York and James Rivers) and the eastern coastal basin (encompassing the creeks and rivers of the Eastern Shore of Virginia that are west of U.S. Route 13 and drain to the Chesapeake Bay). Each plan shall address the reduction of nutrients and suspended solids, including sediments, entering the Chesapeake Bay and its tributaries. Each plan shall also summarize other existing programs, strategies, goals and commitments for reducing toxics; the preservation and protection of living resources; and the enhancement of the amount of submerged aquatic vegetation, for each tributary basin and the Bay. The plans shall be developed in consultation with affected stakeholders, including, but not limited to, local government officials; wastewater treatment operators; seafood industry representatives; commercial and recreational fishing interests; developers; farmers; local, regional and statewide conservation and environmental interests; the Virginia Chesapeake Bay Partnership Council; and the Virginia delegation to the Chesapeake Bay Commission.

§ 2.1-51.12:2. Tributary plan content; development timelines.

A. Each tributary plan developed pursuant to § 2.1-51.12:1 shall include the following:

1. Recommended specific strategies, goals, commitments and methods of implementation designed to achieve the nutrient goals of the 1987 Chesapeake Bay Agreement and the 1992 amendments to that agreement signed by the Governors of Virginia, Maryland, and Pennsylvania, the Mayor of the District of Columbia, the Administrator of the United States Environmental Protection Agency and the Chairman of the Chesapeake Bay Commission, collectively known as the Chesapeake Executive Council.
2. Recommended specific strategies, goals, commitments and methods of implementation to achieve sediment and suspended solids reductions from nonpoint sources sufficient to achieve living resource goals, particularly those related to habitat conditions necessary to support submerged aquatic vegetation.
3. A report on progress made pursuant to the "Chesapeake Bay Basinwide Toxics Reduction and Prevention Strategy" signed by the Chesapeake Executive Council on October 14, 1994, that is applicable to the tributary for which the plan is prepared.
4. A report on progress on the "Submerged Aquatic Vegetation Restoration Goals" signed by the Chesapeake Executive Council on September 15, 1993, that is applicable to the tributary for which the plan is prepared.

5. A report on progress related to the objectives of the "Local Government Partnership Initiative" signed by the Chesapeake Executive Council on November 30, 1995.

6. Specifically identified recommended state, local and private responsibilities and actions, with associated timetables, for implementation of the plan, to include the (i) person, official, governmental unit, organization or other responsible body; (ii) specific programmatic and environmental benchmarks and indicators for tracking and evaluating implementation and progress; (iii) opportunities, if appropriate, to achieve nutrient reduction goals through nutrient trading; (iv) estimated state and local benefits derived from implementation of the proposed alternatives in the plan; (v) state funding commitments and specifically identified sources of state funding as well as a method for considering alternative or additional funding mechanisms; (vi) state incentives for local and private bodies for assisting with implementation of the plans; and (vii) estimate and schedule of costs for the recommended alternatives in each plan.

7. Scientific documentation to support the recommended actions in a plan and an analysis supporting the documentation if it differs from the conclusions used by the Chesapeake Bay Program.

8. An analysis and explanation of how and when the plan is expected to achieve the elements of subdivisions 1, 2, 3 and 4 of this subsection.

9. A process for and schedule of adjustment of the plan if reevaluation concludes that the specific nutrient reduction goals will not be met.

10. An analysis of the cost effectiveness and equity of the recommended nutrient reduction alternatives.

11. An opportunity for public comment and a public education and information program that includes but is not limited to information on specific assignments of responsibility needed to execute the plan.

B. Tributary plans shall be developed by the following dates for the:

1. Potomac River Basin, January 1, 1997.
2. Rappahannock River Basin, January 1, 1999.
3. York River Basin, July 1, 1998.
4. James River Basin, July 1, 1998.
5. Eastern and western coastal basins, January 1, 1999.

C. In developing tributary plans, the Secretary shall consider, among other factors: (i) studies relevant to the establishment of nutrient, sediment and suspended solids reduction goals; (ii) the relative contributions and impacts of point and nonpoint sources of nutrients; (iii) the scientific relationship between nutrient, sediment and suspended solids controls and the attainment of water quality goals; and (iv) estimates of costs for each publicly owned treatment works affected by point source nutrient reduction goals and estimates of costs for nonpoint source nutrient, sediment and suspended solids reduction goals.

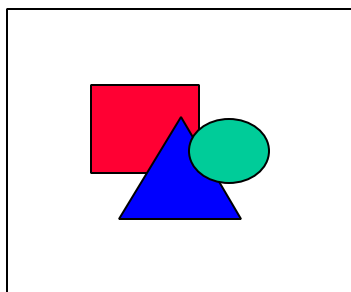
D. In any tributary plan reevaluation, the Secretary shall consider, among other factors: (i) whether all publicly owned treatment works in the basin under consideration have either installed biological nutrient removal technology or achieved equivalent nutrient reduction by other means; (ii) total nutrient reductions achieved by nonpoint sources to the tributary; (iii) the need for additional nutrient controls for the attainment of water quality goals; (iv) a comparison between nutrient reductions achieved by point source controls and nonpoint source controls in order to equitably allocate any additional reductions; and (v) the cost effectiveness, including nutrient trading options, of any additional nutrient reduction controls.

Item 405, 2000 Appropriations Act

The Secretary of Natural Resources shall report to the Chairmen of the Senate Committees on Finance and Agriculture, Conservation, and Natural Resources, and the House Committees on Appropriations and Conservation and Natural Resources, by November 4 of each year on implementation of the Chesapeake Bay nutrient reduction strategies. The report shall include and address the progress and costs of point source and nonpoint source pollution strategies. The report shall include, but not be limited to, information on levels of dissolved oxygen, acres of submerged aquatic vegetation, computer modeling, variety and numbers of living resources, and other relevant measures General Assembly to evaluate the progress and effectiveness of the tributary strategies. In addition, the Secretary shall include information on the status of all of Virginia's commitments to the Chesapeake Bay Agreements.

APPENDIX B

Chesapeake 2000 Agreement



CHESAPEAKE 2000

PREAMBLE

The Chesapeake Bay is North America's largest and most biologically diverse estuary, home to more than 3,600 species of plants, fish and animals. For more than 300 years, the Bay and its tributaries have sustained the region's economy and defined its traditions and culture. It is a resource of extraordinary productivity, worthy of the highest levels of protection and restoration.

Accordingly, in 1983 and 1987, the states of Virginia, Maryland, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission and the U.S. Environmental Protection Agency, representing the federal government, signed historic agreements that established the Chesapeake Bay Program partnership to protect and restore the Chesapeake Bay's ecosystem.

For almost two decades, we, the signatories to these agreements, have worked together as stewards to ensure the public's right to clean water and a healthy and productive resource. We have sought to protect the health of the public that uses the Bay and consumes its bounty. The initiatives we have pursued have been deliberate and have produced significant results in the health and productivity of the Bay's main stem, the tributaries, and the natural land and water ecosystems that compose the Chesapeake Bay watershed.

While the individual and collective accomplishments of our efforts have been significant, even greater effort will be required to address the enormous challenges that lie ahead. Increased population and development within the watershed have created ever-greater challenges for us in the Bay's restoration. These challenges are further complicated by the dynamic nature of the Bay and the ever-changing global ecosystem with which it interacts.

In order to achieve our existing goals and meet the challenges that lie ahead, we must reaffirm our partnership and recommit to fulfilling the public responsibility we undertook almost two decades ago. We must manage for the future. We must have a vision for our desired destiny and put programs into place that will secure it.

To do this, there can be no greater goal in this recommitment than to engage everyone — individuals, businesses, schools and universities, communities and governments — in our effort. We must encourage all citizens of the Chesapeake Bay watershed to work toward a shared vision — a system with abundant, diverse populations of living resources, fed by healthy streams and rivers, sustaining strong local and regional economies, and our

unique quality of life.

In affirming our recommitment through this new *Chesapeake 2000*, we recognize the importance of viewing this document in its entirety with no single part taken in isolation of the others. This Agreement reflects the Bay's complexity in that each action we take, like the elements of the Bay itself, is connected to all the others. This Agreement responds to the problems facing this magnificent ecosystem in a comprehensive, multifaceted way.

By this Agreement, we commit ourselves to nurture and sustain a Chesapeake Bay Watershed Partnership and to achieve the goals set forth in the subsequent sections. Without such a partnership, future challenges will not be met. With it, the restoration and protection of the Chesapeake Bay will be ensured for generations to come.

We commit to:

LIVING RESOURCE PROTECTION AND RESTORATION

The health and vitality of the Chesapeake Bay's living resources provide the ultimate indicator of our success in the restoration and protection effort. The Bay's fisheries and the other living resources that sustain them and provide habitat for them are central to the initiatives we undertake in this Agreement.

We recognize the interconnectedness of the Bay's living resources and the importance of protecting the entire natural system. Therefore, we commit to identify the essential elements of habitat and environmental quality necessary to support the living resources of the Bay. In protecting commercially valuable species, we will manage harvest levels with precaution to maintain their health and stability and protect the ecosystem as a whole. We will restore passage for migratory fish and work to ensure that suitable water quality conditions exist in the upstream spawning habitats upon which they depend.

Our actions must be conducted in an integrated and coordinated manner. They must be continually monitored, evaluated and revised to adjust to the dynamic nature and complexities of the Chesapeake Bay and changes in global ecosystems. To advance this ecosystem approach, we will broaden our management perspective from single-system to ecosystem functions and will expand our protection efforts by shifting from single-species to multi-species management. We will also undertake efforts to determine how future conditions and changes in the chemical, physical and biological attributes of the Bay will affect living resources over time.

GOAL

Restore, enhance and protect the finfish, shellfish and other living resources, their habitats and ecological relationships to sustain all fisheries and provide for a balanced ecosystem.

Oysters

- By 2010, achieve, at a minimum, a tenfold increase in native oysters in the Chesapeake Bay, based upon a 1994 baseline. By 2002, develop and implement a strategy to achieve this increase by using sanctuaries sufficient in size and distribution, aquaculture, continued disease research and disease-resistant management strategies, and other management approaches.

Exotic Species

- In 2000, establish a Chesapeake Bay Program Task Force to:
 1. Work cooperatively with the U.S. Coast Guard, the ports, the shipping industry, environmental interests and others at the national level to establish and implement a national program designed to substantially reduce and, where possible, eliminate the introduction of non-native species carried in ballast water; and
 2. By 2002, develop and implement an interim voluntary ballast water management program for the waters of the Bay and its tributaries.
- By 2001, identify and rank non-native, invasive aquatic and terrestrial species which are causing or have the potential to cause significant negative impacts to the Bay's aquatic ecosystem. By 2003, develop and implement management plans for those species deemed problematic to the restoration and integrity of the Bay's ecosystem.

Fish Passage and Migratory and Resident Fish

- By June 2002, identify the final initiatives necessary to achieve our existing goal of restoring fish passage for migratory fish to more than 1,357 miles of currently blocked river habitat by 2003 and establish a monitoring program to assess outcomes.
- By 2002, set a new goal with implementation schedules for additional migratory and resident fish passages that addresses the removal of physical blockages. In addition, the goal will address the removal of chemical blockages caused by acid mine drainage. Projects should be selected for maximum habitat and stock benefit.
- By 2002, assess trends in populations for priority migratory fish species. Determine tributary-specific target population sizes based upon projected fish passage, and current and projected habitat available, and provide recommendations to achieve those targets.
- By 2003, revise fish management plans to include strategies to achieve target population sizes of tributary-specific migratory fish.

Multi-species Management

- By 2004, assess the effects of different population levels of filter feeders such as menhaden, oysters and clams on Bay water quality and habitat.
- By 2005, develop ecosystem-based multi-species management plans for targeted species.

- By 2007, revise and implement existing fisheries management plans to incorporate ecological, social and economic considerations, multi-species fisheries management and ecosystem approaches.

Crabs

- By 2001, establish harvest targets for the blue crab fishery and begin implementing complementary state fisheries management strategies Baywide. Manage the blue crab fishery to restore a healthy spawning biomass, size and age structure.

VITAL HABITAT PROTECTION AND RESTORATION

The Chesapeake Bay's natural infrastructure is an intricate system of terrestrial and aquatic habitats, linked to the landscapes and the environmental quality of the watershed. It is composed of the thousands of miles of river and stream habitat that interconnect the land, water, living resources and human communities of the Bay watershed. These vital habitats—including open water, underwater grasses, marshes, wetlands, streams and forests—support living resource abundance by providing key food and habitat for a variety of species. Submerged aquatic vegetation reduces shoreline erosion while forests and wetlands protect water quality by naturally processing the pollutants before they enter the water. Long-term protection of this natural infrastructure is essential.

In managing the Bay ecosystem as a whole, we recognize the need to focus on the individuality of each river, stream and creek, and to secure their protection in concert with the communities and individuals that reside within these small watersheds. We also recognize that we must continue to refine and share information regarding the importance of these vital habitats to the Bay's fish, shellfish and waterfowl. Our efforts to preserve the integrity of this natural infrastructure will protect the Bay's waters and living resources and will ensure the viability of human economies and communities that are dependent upon those resources for sustenance, reverence and posterity.

GOAL

Preserve, protect and restore those habitats and natural areas that are vital to the survival and diversity of the living resources of the Bay and its rivers.

Submerged Aquatic Vegetation

- Recommit to the existing goal of protecting and restoring 114,000 acres of submerged aquatic vegetation (SAV).
- By 2002, revise SAV restoration goals and strategies to reflect historic abundance, measured as acreage and density from the 1930s to the present. The revised goals will include specific levels of water clarity which are to be met in 2010. Strategies to achieve these goals will address water clarity, water quality and bottom disturbance.
- By 2002, implement a strategy to accelerate protection and restoration of SAV beds in areas of critical importance to the Bay's living resources.

Watersheds

- By 2010, work with local governments, community groups and watershed organizations to develop and implement locally supported watershed management plans in two-thirds of the Bay watershed covered by this Agreement. These plans would address the protection, conservation and restoration of stream corridors, riparian forest buffers and wetlands for the purposes of improving habitat and water quality, with collateral benefits for optimizing stream flow and water supply.
- By 2001, each jurisdiction will develop guidelines to ensure the aquatic health of stream corridors. Guidelines should consider optimal surface and groundwater flows.
- By 2002, each jurisdiction will work with local governments and communities that have watershed management plans to select pilot projects that promote stream corridor protection and restoration.
- By 2003, include in the “State of the Bay Report,” and make available to the public, local governments and others, information concerning the aquatic health of stream corridors based on adopted regional guidelines.
- By 2004, each jurisdiction, working with local governments, community groups and watershed organizations, will develop stream corridor restoration goals based on local watershed management planning.

Wetlands

- Achieve a no-net loss of existing wetlands acreage and function in the signatories’ regulatory programs.
- By 2010, achieve a net resource gain by restoring 25,000 acres of tidal and non-tidal wetlands. To do this, we commit to achieve and maintain an average restoration rate of 2,500 acres per year basin wide by 2005 and beyond. We will evaluate our success in 2005.
- Provide information and assistance to local governments and community groups for the development and implementation of wetlands preservation plans as a component of a locally based integrated watershed management plan. Establish a goal of implementing the wetlands plan component in 25 percent of the land area of each state’s Bay watershed by 2010. The plans would preserve key wetlands while addressing surrounding land use so as to preserve wetland functions.
- Evaluate the potential impact of climate change on the Chesapeake Bay watershed, particularly with respect to its wetlands, and consider potential management options.

Forests

- By 2002, ensure that measures are in place to meet our riparian forest buffer restoration goal of 2,010 miles by 2010. By 2003, establish a new goal to expand buffer mileage.
- Conserve existing forests along all streams and shorelines.

- Promote the expansion and connection of contiguous forests through conservation easements, greenways, purchase and other land conservation mechanisms.

WATER QUALITY PROTECTION AND RESTORATION

Improving water quality is the most critical element in the overall protection and restoration of the Chesapeake Bay and its tributaries. In 1987, we committed to achieving a 40 percent reduction in controllable nutrient loads to the Bay. In 1992, we committed to tributary-specific reduction strategies to achieve this reduction and agreed to stay at or below these nutrient loads once attained. We have made measurable reductions in pollution loading despite continuing growth and development. Still, we must do more.

Recent actions taken under the Clean Water Act resulted in listing portions of the Chesapeake Bay and its tidal rivers as “impaired waters.” These actions have emphasized the regulatory framework of the Act along with the ongoing cooperative efforts of the Chesapeake Bay Program as the means to address the nutrient enrichment problems within the Bay and its rivers. In response, we have developed, and are implementing, a process for integrating the cooperative and statutory programs of the Chesapeake Bay and its tributaries. We have agreed to the goal of improving water quality in the Bay and its tributaries so that these waters may be removed from the impaired waters list prior to the time when regulatory mechanisms under Section 303(d) of the Clean Water Act would be applied.

We commit to achieve and maintain water quality conditions necessary to support living resources throughout the Chesapeake Bay ecosystem. Where we have failed to achieve established water quality goals, we will take actions necessary to reach and maintain those goals. We will make pollution prevention a central theme in the protection of water quality. And we will take actions that protect freshwater flow regimes for riverine and estuarine habitats. In pursuing the restoration of vital habitats throughout the watershed, we will continue efforts to improve water clarity in order to meet light requirements necessary to support SAV. We will expand our efforts to reduce sediments and airborne pollution, and ensure that the Bay is free from toxic effects on living resources and human health. We will continue our cooperative intergovernmental approach to achieve and maintain water quality goals through cost-effective and equitable means within the framework of federal and state law. We will evaluate the potential impacts of emerging issues, including, among others, airborne ammonia and nonpoint sources of chemical contaminants. Finally, we will continue to monitor water quality conditions and adjust our strategies accordingly.

GOAL

Achieve and maintain the water quality necessary to support the aquatic living resources of the Bay and its tributaries and to protect human health.

Nutrients and Sediments

- Continue efforts to achieve and maintain the 40 percent nutrient reduction goal agreed

to in 1987, as well as the goals being adopted for the tributaries south of the Potomac River.

- By 2010, correct the nutrient- and sediment-related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act. In order to achieve this:

1. By 2001, define the water quality conditions necessary to protect aquatic living resources and then assign load reductions for nitrogen and phosphorus to each major tributary;
2. Using a process parallel to that established for nutrients, determine the sediment load reductions necessary to achieve the water quality conditions that protect aquatic living resources, and assign load reductions for sediment to each major tributary by 2001;
3. By 2002, complete a public process to develop and begin implementation of revised Tributary Strategies to achieve and maintain the assigned loading goals;
4. By 2003, the jurisdictions with tidal waters will use their best efforts to adopt new or revised water quality standards consistent with the defined water quality conditions. Once adopted by the jurisdictions, the Environmental Protection Agency will work expeditiously to review the new or revised standards, which will then be used as the basis for removing the Bay and its tidal rivers from the list of impaired waters; and
5. By 2003, work with the Susquehanna River Basin Commission and others to adopt and begin implementing strategies that prevent the loss of the sediment retention capabilities of the lower Susquehanna River dams.

Chemical Contaminants

- We commit to fulfilling the 1994 goal of a Chesapeake Bay free of toxics by reducing or eliminating the input of chemical contaminants from all controllable sources to levels that result in no toxic or bioaccumulative impact on the living resources that inhabit the Bay or on human health.

- By Fall of 2000, reevaluate and revise, as necessary, the “Chesapeake Bay Basinwide Toxics Reduction and Prevention Strategy” focusing on:

1. Complementing state and federal regulatory programs to go beyond traditional point source controls, including nonpoint sources such as groundwater discharge and atmospheric deposition, by using a watershed-based approach; and
2. Understanding the effects and impacts of chemical contaminants to increase the effectiveness of management actions.

- Through continual improvement of pollution prevention measures and other voluntary means, strive for zero release of chemical contaminants from point sources, including air

sources. Particular emphasis shall be placed on achieving, by 2010, elimination of mixing zones for persistent or bioaccumulative toxics.

- Reduce the potential risk of pesticides to the Bay by targeting education, outreach and implementation of Integrated Pest Management and specific Best Management Practices on those lands that have higher potential for contributing pesticide loads to the Bay.

Priority Urban Waters

- Support the restoration of the Anacostia River, Baltimore Harbor, and Elizabeth River and their watersheds as models for urban river restoration in the Bay basin.
- By 2010, the District of Columbia, working with its watershed partners, will reduce pollution loads to the Anacostia River in order to eliminate public health concerns and achieve the living resource, water quality and habitat goals of this and past Agreements.

Air Pollution

- By 2003, assess the effects of airborne nitrogen compounds and chemical contaminants on the Bay ecosystem and help establish reduction goals for these contaminants.

Boat Discharge

- By 2003, establish appropriate areas within the Chesapeake Bay and its tributaries as “no discharge zones” for human waste from boats. By 2010, expand by 50 percent the number and availability of waste pump-out facilities.
- By 2006, reassess our progress in reducing the impact of boat waste on the Bay and its tributaries. This assessment will include evaluating the benefits of further expanding no discharge zones, as well as increasing the number of pump-out facilities.

SOUND LAND USE

In 1987, the signatories agreed that “there is a clear correlation between population growth and associated development and environmental degradation in the Chesapeake Bay system.” This Agreement reaffirms that concept and recognizes that more must be done.

An additional three million people are expected to settle in the watershed by 2020. This growth could potentially eclipse the nutrient reduction and habitat protection gains of the past. Therefore it is critical that we consider our approaches to land use in order to ensure progress in protecting the Bay and its local watersheds.

Enhancing, or even maintaining, the quality of the Bay while accommodating growth will frequently involve difficult choices. It will require a renewed commitment to appropriate development standards. The signatories will assert the full measure of their authority to limit and mitigate the potential adverse effects of continued growth; each however, will pursue this objective within the framework of its own historic, existing or future land use practices or processes. Local jurisdictions have been delegated authority over many decisions regarding growth and development which have both direct and indirect effects

on the Chesapeake Bay system and its living resources. The role of local governments in the Bay's restoration and protection effort will be given proper recognition and support through state and federal resources. States will also engage in active partnerships with local governments in managing growth and development in ways that support the following goal.

We acknowledge that future development will be sustainable only if we protect our natural and rural resource land, limit impervious surfaces and concentrate new growth in existing population centers or suitable areas served by appropriate infrastructure. We will work to integrate environmental, community and economic goals by promoting more environmentally sensitive forms of development. We will also strive to coordinate land-use, transportation, water and sewer and other infrastructure planning so that funding and policies at all levels of government do not contribute to poorly planned growth and development or degrade local water quality and habitat. We will advance these policies by creating partnerships with local governments to protect our communities and to discharge our duties as trustees in the stewardship of the Chesapeake Bay. Finally, we will report every two years on our progress in achieving our commitments to promote sound land use.

GOAL

Develop, promote and achieve sound land use practices which protect and restore watershed resources and water quality, maintain reduced pollutant loadings for the Bay and its tributaries, and restore and preserve aquatic living resources.

Land Conservation

- By 2001, complete an assessment of the Bay's resource lands including forests and farms, emphasizing their role in the protection of water quality and critical habitats, as well as cultural and economic viability.
- Provide financial assistance or new revenue sources to expand the use of voluntary and market-based mechanisms such as easements, purchase or transfer of development rights and other approaches to protect and preserve natural resource lands.
- Strengthen programs for land acquisition and preservation within each state that are supported by funding and target the most valued lands for protection. Permanently preserve from development 20 percent of the land area in the watershed by 2010.
- Provide technical and financial assistance to local governments to plan for or revise plans, ordinances and subdivision regulations to provide for the conservation and sustainable use of the forest and agricultural lands.
- In cooperation with local governments, develop and maintain in each jurisdiction a strong GIS system to track the preservation of resource lands and support the implementation of sound land use practices.

Development, Redevelopment and Revitalization

- By 2012, reduce the rate of harmful sprawl development of forest and agricultural land in the Chesapeake Bay watershed by 30 percent measured as an average over five years from the baseline of 1992-1997, with measures and progress reported regularly to the Chesapeake Executive Council.
- By 2005, in cooperation with local government, identify and remove state and local impediments to low impact development designs to encourage the use of such approaches and minimize water quality impacts.
- Work with communities and local governments to encourage sound land use planning and practices that address the impacts of growth, development and transportation on the watershed.
- By 2002, review tax policies to identify elements which discourage sustainable development practices or encourage undesirable growth patterns. Promote the modification of such policies and the creation of tax incentives which promote the conservation of resource lands and encourage investments consistent with sound growth management principles.
- The jurisdictions will promote redevelopment and remove barriers to investment in underutilized urban, suburban and rural communities by working with localities and development interests.
- By 2002, develop analytical tools that will allow local governments and communities to conduct watershed-based assessment of the impacts of growth, development and transportation decisions.
- By 2002, compile information and guidelines to assist local governments and communities to promote ecologically-based designs in order to limit impervious cover in undeveloped and moderately developed watersheds and reduce the impact of impervious cover in highly developed watersheds.
- Provide information to the development community and others so they may champion the application of sound land use practices.
- By 2003, work with local governments and communities to develop land-use management and water resource protection approaches that encourage the concentration of new residential development in areas supported by adequate water resources and infrastructure to minimize impacts on water quality.
- By 2004, the jurisdictions will evaluate local implementation of stormwater, erosion control and other locally-implemented water quality protection programs that affect the Bay system and ensure that these programs are being coordinated and applied effectively in order to minimize the impacts of development.
- Working with local governments and others, develop and promote wastewater treatment options, such as nutrient reducing septic systems, which protect public health and

minimize impacts to the Bay's resources.

- Strengthen brownfield redevelopment. By 2010, rehabilitate and restore 1,050 brownfield sites to productive use.
- Working with local governments, encourage the development and implementation of emerging urban storm water retrofit practices to improve their water quantity and quality function.

Transportation

- By 2002, the signatory jurisdictions will promote coordination of transportation and land use planning to encourage compact, mixed use development patterns, revitalization in existing communities and transportation strategies that minimize adverse effects on the Bay and its tributaries.
- By 2002, each state will coordinate its transportation policies and programs to reduce the dependence on automobiles by incorporating travel alternatives such as telework, pedestrian, bicycle and transit options, as appropriate, in the design of projects so as to increase the availability of alternative modes of travel as measured by increased use of those alternatives.
- Consider the provisions of the federal transportation statutes for opportunities to purchase easements to preserve resource lands adjacent to rights of way and special efforts for stormwater management on both new and rehabilitation projects.
- Establish policies and incentives which encourage the use of clean vehicle and other transportation technologies that reduce emissions.

Public Access

- By 2010, expand by 30 percent the system of public access points to the Bay, its tributaries and related resource sites in an environmentally sensitive manner by working with state and federal agencies, local governments and stakeholder organizations.
- By 2005, increase the number of designated water trails in the Chesapeake Bay region by 500 miles.
- Enhance interpretation materials that promote stewardship at natural, recreational, historical and cultural public access points within the Chesapeake Bay watershed.
- By 2003, develop partnerships with at least 30 sites to enhance place-based interpretation of Bay-related resources and themes and stimulate volunteer involvement in resource restoration and conservation.

STEWARDSHIP AND COMMUNITY ENGAGEMENT

The Chesapeake Bay is dependent upon the actions of every citizen in the watershed, both today and in the future. We recognize that the cumulative benefit derived from

community-based watershed programs is essential for continued progress toward a healthier Chesapeake Bay. Therefore, we commit ourselves to engage our citizens by promoting a broad conservation ethic throughout the fabric of community life, and foster within all citizens a deeper understanding of their roles as trustees of their own local environments. Through their actions, each individual can contribute to the health and well-being of their neighborhood streams, rivers and the land that surrounds them, not only as ecological stewards of the Bay but also as members of watershed-wide communities. By focusing individuals on local resources, we will advance Baywide restoration as well.

We recognize that the future of the Bay also depends on the actions of generations to follow. Therefore, we commit to provide opportunities for cooperative learning and action so that communities can promote local environmental quality for the benefit and enjoyment of residents and visitors. We will assist communities throughout the watershed in improving quality of life, thereby strengthening local economies and connecting individuals to the Bay through their shared sense of responsibility. We will seek to increase the financial and human resources available to localities to meet the challenges of restoring the Chesapeake Bay.

GOAL

Promote individual stewardship and assist individuals, community-based organizations, businesses, local governments and schools to undertake initiatives to achieve the goals and commitments of this agreement.

Education and Outreach

- Make education and outreach a priority in order to achieve public awareness and personal involvement on behalf of the Bay and local watersheds.
- Provide information to enhance the ability of citizen and community groups to participate in Bay restoration activities on their property and in their local watershed.
- Expand the use of new communications technologies to provide a comprehensive and interactive source of information on the Chesapeake Bay and its watershed for use by public and technical audiences. By 2001, develop and maintain a web-based clearing house of this information specifically for use by educators.
- Beginning with the class of 2005, provide a meaningful Bay or stream outdoor experience for every school student in the watershed before graduation from high school.
- Continue to forge partnerships with the Departments of Education and institutions of higher learning in each jurisdiction to integrate information about the Chesapeake Bay and its watershed into school curricula and university programs.
- Provide students and teachers alike with opportunities to directly participate in local restoration and protection projects, and to support stewardship efforts in schools and on school property.

- By 2002, expand citizen outreach efforts to more specifically include minority populations by, for example, highlighting cultural and historical ties to the Bay, and providing multi-cultural and multi-lingual educational materials on stewardship activities and Bay information.

Community Engagement

- Jurisdictions will work with local governments to identify small watersheds where community-based actions are essential to meeting Bay restoration goals—in particular wetlands, forested buffers, stream corridors and public access and work with local governments and community organizations to bring an appropriate range of Bay program resources to these communities.
- Enhance funding for locally-based programs that pursue restoration and protection projects that will assist in the achievement of the goals of this and past agreements.
- By 2001, develop and maintain a clearing house for information on local watershed restoration efforts, including financial and technical assistance.
- By 2002, each signatory jurisdiction will offer easily-accessible information suitable for analyzing environmental conditions at a small watershed scale.
- Strengthen the Chesapeake Bay Program's ability to incorporate local governments into the policy decision making process. By 2001, complete a reevaluation of the Local Government Participation Action Plan and make necessary changes in Bay program and jurisdictional functions based upon the reevaluation.
- Improve methods of communication with and among local governments on Bay issues and provide adequate opportunities for discussion of key issues.
- By 2001, identify community watershed organizations and partnerships. Assist in establishing new organizations and partnerships where interest exists. These partners will be important to successful watershed management efforts in distributing information to the public, and engaging the public in the Bay restoration and preservation effort.
- By 2005, identify specific actions to address the challenges of communities where historically poor water quality and environmental conditions have contributed to disproportional health, economic or social impacts.

Government by Example

- By 2002, each signatory will put in place processes to:
 1. Ensure that all properties owned, managed or leased by the signatories are developed, redeveloped and used in a manner consistent with all relevant goals, commitments and guidance of this Agreement.
 2. Ensure that the design and construction of signatory-funded development and redevelopment projects are consistent with all relevant goals, commitments and guidance of this Agreement.

- Expand the use of clean vehicle technologies and fuels on the basis of emission reductions, so that a significantly greater percentage of each signatory government's fleet of vehicles use some form of clean technology.
- By 2001, develop an Executive Council Directive to address stormwater management to control nutrient, sediment and chemical contaminant runoff from state, federal and District owned land.

Partnerships

- Strengthen partnerships with Delaware, New York and West Virginia by promoting communication and by seeking agreements on issues of mutual concern.
- Work with non-signatory Bay states to establish links with community-based organizations throughout the Bay watershed.

THIS AGREEMENT, we rededicate ourselves to the restoration and protection of the ecological integrity, productivity and beneficial uses of the Chesapeake Bay system. We reaffirm our commitment to previously-adopted Chesapeake Bay Agreements and their supporting policies. We agree to report annually to the citizens on the state of the Bay and consider any additional actions necessary.

(Date)

FOR THE CHESAPEAKE BAY COMMISSION

FOR THE STATE OF MARYLAND _____

FOR THE COMMONWEALTH OF PENNSYLVANIA

FOR THE COMMONWEALTH OF VIRGINIA

FOR THE DISTRICT OF COLUMBIA _____

FOR THE UNITED STATES OF AMERICA _____

APPENDIX C

Point Source Facility Nutrient Loading Tables by Tributary Basin

Table C-1. Shenandoah/Potomac River Basin 1999 Point Source Phosphorus Discharge Inventory

| RANK | LOCATION | FACILITY | 1999 TP LOAD DISCH. (LBS/YR) | 1985 TP LOAD DISCH. (LBS/YR) | % CHANGE FROM 1985 |
|----------------------|----------------|--|---------------------------------------|---------------------------------------|-----------------------------|
| 1 | Waynesboro | DuPont-Waynesboro | 1,120 | 57,200 | -98% |
| 2 | Page | Luray STP | 1,710 | 14,420 | -88% |
| 3 | Arlington | Arlington STP | 7,530 | 46,890 | -84% |
| 4 | Warren | Front Royal STP | 7,740 | 38,380 | -80% |
| 5 | Prince William | Quantico-Mainside STP | 220 | 880 | -75% |
| 6 | Alexandria | Alexandria STP | 4,240 | 16,260 | -74% |
| 7 | Staunton | Staunton-Middle River STP ¹ | 16,440 | 50,260 | -67% |
| 8 | Shenandoah | Strasburg STP | 4,970 | 14,420 | -66% |
| 9 | Shenandoah | Woodstock STP | 3,260 | 9,160 | -64% |
| 10 | Augusta | ACSA-Fishersville STP | 5,460 | 15,200 | -64% |
| 11 | Stafford | Aquia STP | 810 | 2,050 | -60% |
| 12 | Rockingham | Broadway STP | 2,040 | 4,810 | -58% |
| 13 | Loudoun | Leesburg | 10,850 | 25,570 | -58% |
| 14 | Waynesboro | Waynesboro STP | 22,360 | 48,320 | -54% |
| 15 | Loudoun | Purcellville | 2,480 | 5,260 | -53% |
| 16 | Rockingham | HRRSA-North River STP | 60,100 | 125,660 | -52% |
| 17 | Augusta | ACSA-Stuarts Draft STP | 5,560 | 9,740 | -43% |
| 18 | Prince William | PWCSA-Mooney STP | 2,170 | 3,690 | -41% |
| 19 | King George | King George-Dahlgren STP ² | 1,040 | 1,560 | -33% |
| 20 | Prince William | Dale Serv. Corp. #1 | 800 | 1,100 | -27% |
| 21 | Westmoreland | Colonial Beach STP | 6,040 | 7,790 | -22% |
| 22 | Fairfax | Noman Cole STP ³ | 11,370 | 14,050 | -19% |
| 23 | Rockingham | Timberville STP | 1,460 | 1,750 | -17% |
| 24 | Prince William | Dale Serv. Corp. #8 | 750 | 840 | -11% |
| 25 | Rockingham | Rocco Quality Foods | 14,610 | 14,610 | 0% |
| 26 | Rockingham | Merck-Elkton | 81,140 | 60,580 | 34% |
| 27 | Shenandoah | Rocco Farm Foods | 36,970 | 19,090 | 94% |
| 28 | DC | Blue Plains - VA Portion | 15,840 | 6,850 | 131% |
| 29 | Rockingham | Wampler-Broadway | 950 | 280 | 239% |
| 30 | Fairfax | Upper Occoquan S.A. | 2,920 | 860 | 240% |
| 31 | Frederick | FWSA-Opequon STP ⁴ | 34,100 | NA | NA |
| 32 | Rockingham | Massanutten PSA STP ⁴ | 3,220 | NA | NA |
| 33 | King George | USNSWC-Dahlgren STP ⁴ | 4,240 | NA | NA |
| 34 | Frederick | Parkins Mill STP ⁴ | 8,940 | NA | NA |
| Basin Total = | | | 383,450 | 678,480⁵ | -43% |

NOTES:

¹ Accounts for Verona and Middle River plants in 1985 comparison.

² Accounts for Dahlgren and Bayberry plants in 1985 comparison.

³ Accounts for Lower Potomac and Little Hunting Creek plants in 1985 comparison.

⁴ These facilities are either new or loads from 1985 are not available for comparison.

⁵ The 1985 Basin Total includes loads from treatment plants that have since gone off-line.

Table C-2. Shenandoah/Potomac River Basin 1999 Point Source Nitrogen Discharge Inventory

| RANK | LOCATION | FACILITY | 1999 TN LOAD DISCH. (LBS/YR) | 1985 TN LOAD DISCH. (LBS/YR) | % CHANGE FROM 1985 |
|----------------------|----------------|--|---------------------------------------|---------------------------------------|-----------------------------|
| 1 | Waynesboro | DuPont-Waynesboro | 38,380 | 299,630 | -87% |
| 2 | Page | Luray STP | 6,270 | 42,120 | -85% |
| 3 | Augusta | ACSA-Fishersville STP | 20,080 | 44,400 | -55% |
| 4 | Rockingham | Merck-Elkton | 108,260 | 233,880 | -54% |
| 5 | Staunton | Staunton-Middle River STP ¹ | 69,030 | 146,870 | -53% |
| 6 | Arlington | Arlington STP | 918,570 | 1,641,280 | -44% |
| 7 | Prince William | Quantico-Mainside STP | 52,880 | 82,540 | -36% |
| 8 | Warren | Front Royal STP | 77,730 | 112,140 | -31% |
| 9 | Stafford | Aquia STP | 54,100 | 64,890 | -17% |
| 10 | Waynesboro | Waynesboro STP | 167,220 | 190,930 | -12% |
| 11 | Shenandoah | Strasburg STP | 37,170 | 42,120 | -12% |
| 12 | Prince William | PWCSA-Mooney STP | 540,670 | 609,160 | -11% |
| 13 | Shenandoah | Woodstock STP | 24,400 | 26,760 | -9% |
| 14 | Prince William | Dale Serv. Corp. #1 | 89,620 | 91,320 | -2% |
| 15 | King George | King George-Dahlgren STP ² | 4,800 | 4,550 | 5% |
| 16 | Fairfax | Noman Cole STP ³ | 2,210,180 | 1,906,340 | 16% |
| 17 | Rockingham | HRRSA-North River STP | 437,060 | 367,160 | 19% |
| 18 | Loudoun | Purcellville | 18,540 | 15,370 | 21% |
| 19 | Augusta | ACSA-Stuarts Draft STP | 36,120 | 28,460 | 27% |
| 20 | Alexandria | Alexandria STP | 2,796,130 | 1,994,000 | 40% |
| 21 | Rockingham | Broadway STP | 21,060 | 14,250 | 48% |
| 22 | Westmoreland | Colonial Beach STP | 35,070 | 22,770 | 54% |
| 23 | DC | Blue Plains - VA Portion | 1,262,350 | 814,170 | 55% |
| 24 | Shenandoah | Rocco Farm Foods | 285,350 | 147,310 | 94% |
| 25 | Rockingham | Rocco Quality Foods | 26,170 | 12,490 | 110% |
| 26 | Loudoun | Leesburg | 162,840 | 71,730 | 127% |
| 27 | Fairfax | Upper Occoquan S.A. | 1,369,760 | 597,530 | 129% |
| 28 | Prince William | Dale Serv. Corp. #8 | 96,150 | 38,360 | 151% |
| 29 | Rockingham | Timberville STP | 14,770 | 5,130 | 188% |
| 30 | Rockingham | Wampler-Broadway | 127,140 | 40,500 | 214% |
| 31 | Frederick | FWSA-Opequon STP ⁴ | 274,660 | NA | NA |
| 32 | Rockingham | Massanutten PSA STP ⁴ | 24,090 | NA | NA |
| 33 | King George | USNSWC-Dahlgren STP ⁴ | 17,990 | NA | NA |
| 34 | Frederick | Parkins Mill STP ⁴ | 66,880 | NA | NA |
| Basin Total = | | | 11,491,490 | 10,663,440⁵ | +8% |

NOTES:

¹ Accounts for Verona and Middle River plants in 1985 comparison.

² Accounts for Dahlgren and Bayberry plants in 1985 comparison.

³ Accounts for Lower Potomac and Little Hunting Creek plants in 1985 comparison.

⁴ These facilities are either new or loads from 1985 are not available for comparison.

⁵ The 1985 Basin Total includes loads from treatment plants that have since gone off-line.

Table C-3. Rappahannock River Basin 1999 Point Source Phosphorus Discharge Inventory

| RANK | LOCATION | FACILITY | 1999 TP LOAD DISCH. (LBS/YR) | 1985 TP LOAD DISCH. (LBS/YR) | % CHANGE FROM 1985 |
|----------------------|----------------|---|---------------------------------------|---------------------------------------|-----------------------------|
| 1 | Spotsylvania | Massaponax STP | 4,350 | 29,580 | -85% |
| 2 | Fredericksburg | Fredericksburg STP | 10,530 | 50,070 | -79% |
| 3 | Culpeper | Culpeper STP | 9,470 | 32,450 | -71% |
| 4 | Middlesex | Urbanna STP | 350 | 970 | -64% |
| 5 | Fauquier | Warrenton STP | 7,510 | 20,460 | -63% |
| 6 | Orange | Orange STP | 4,450 | 11,880 | -63% |
| 7 | Essex | Tappahannock STP | 2,610 | 4,290 | -39% |
| 8 | Richmond | Warsaw STP | 1,300 | 1,560 | -17% |
| 9 | Fauquier | Remington STP | 3,360 | 3,510 | -4% |
| 10 | Spotsylvania | FMC STP ¹ | 3,260 | NA | NA |
| 11 | Stafford | Little Falls Run STP ¹ | 7,110 | NA | NA |
| 12 | Caroline | Ft. A.P. Hill - Wilcox STP ¹ | 860 | NA | NA |
| 13 | Orange | Wilderness STP ¹ | 3,800 | NA | NA |
| Basin Total = | | | 58,960 | 184,190² | -68% |

Table C-4. Rappahannock River Basin 1999 Point Source Nitrogen Discharge Inventory

| RANK | LOCATION | FACILITY | 1999 TN LOAD DISCH. (LBS/YR) | 1985 TN LOAD DISCH. (LBS/YR) | % CHANGE FROM 1985 |
|----------------------|----------------|---|---------------------------------------|---------------------------------------|-----------------------------|
| 1 | Fredericksburg | Fredericksburg STP | 41,080 | 146,300 | -72% |
| 2 | Fauquier | Remington STP | 7,720 | 10,250 | -25% |
| 3 | Middlesex | Urbanna STP | 2,620 | 2,850 | -8% |
| 4 | Fauquier | Warrenton STP | 56,150 | 59,770 | -6% |
| 5 | Orange | Orange STP | 33,270 | 34,720 | -4% |
| 6 | Culpeper | Culpeper STP | 53,630 | 52,560 | 2% |
| 7 | Essex | Tappahannock STP | 19,540 | 12,520 | 56% |
| 8 | Richmond | Warsaw STP | 9,720 | 4,550 | 114% |
| 9 | Spotsylvania | Massaponax STP | 196,590 | 88,230 | 123% |
| 10 | Spotsylvania | FMC STP ¹ | 48,540 | NA | NA |
| 11 | Stafford | Little Falls Run STP ¹ | 57,260 | NA | NA |
| 12 | Caroline | Ft. A.P. Hill - Wilcox STP ¹ | 6,450 | NA | NA |
| 13 | Orange | Wilderness STP ¹ | 28,450 | NA | NA |
| Basin Total = | | | 561,020 | 487,890² | +15% |

NOTES: ¹ FMC, Little Falls Run, Ft. A.P. Hill, and Wilderness STPs are either new facilities or loads for 1985 are not available for comparison.

² The 1985 Basin Total includes loads from treatment plants that have since gone off-line.

Table C-5. York River Basin 1999 Point Source Phosphorus Discharge Inventory

| | | | 1999 | 1985 | % |
|----------------------|--------------|-------------------------------|----------------|----------------|-------------|
| | | | TP LOAD | TP LOAD | CHANGE |
| | | | DISCH. | DISCH. | FROM |
| RANK | LOCATION | FACILITY | (LBS/YR) | (LBS/YR) | 1985 |
| 1 | King William | West Point STP | 2,130 | 9,740 | -78% |
| 2 | York | HRSD-York STP | 42,990 | 152,130 | -72% |
| 3 | Orange | Gordonsville STP | 4,600 | 10,720 | -57% |
| 4 | King William | St. Laurent Paper | 111,810 | 241,530 | -54% |
| 5 | Hanover | Ashland STP | 7,490 | 12,300 | -39% |
| 6 | Hanover | Doswell STP | 23,140 | 19,730 | 17% |
| 7 | York | Amoco-Yorktown ¹ | 18,360 | 2,220 | NA |
| 8 | Caroline | Caroline Co. STP ² | 6,790 | NA | NA |
| Basin Total = | | | 217,310 | 448,370 | -52% |

Table C-6. York River Basin 1999 Point Source Nitrogen Discharge Inventory

| | | | 1999 | 1985 | % |
|----------------------|--------------|-------------------------------|------------------|------------------|-------------|
| | | | TN LOAD | TN LOAD | CHANGE |
| | | | DISCH. | DISCH. | FROM |
| RANK | LOCATION | FACILITY | (LBS/YR) | (LBS/YR) | 1985 |
| 1 | King William | West Point STP | 30,880 | 28,460 | 9% |
| 2 | Orange | Gordonsville STP | 34,400 | 31,310 | 10% |
| 3 | York | HRSD-York STP | 570,100 | 481,920 | 18% |
| 4 | King William | St. Laurent Paper | 800,110 | 586,340 | 36% |
| 5 | Hanover | Ashland STP | 56,060 | 35,050 | 60% |
| 6 | Hanover | Doswell STP | 111,700 | 65,550 | 70% |
| 7 | York | Amoco-Yorktown ¹ | 114,340 | 157,760 | NA |
| 8 | Caroline | Caroline Co. STP ² | 10,850 | NA | NA |
| Basin Total = | | | 1,728,440 | 1,386,390 | +25% |

NOTES: ¹ Due to changes in sampling location requirements in the Amoco-Yorktown reissued discharge permit, it is inappropriate to compare 1999 loads with 1985.

² Caroline Co. STP is a new facility with no 1985 loads to compare against.

Table C-7. James River Basin 1999 Point Source Phosphorus Discharge Inventory

| RANK | LOCATION | FACILITY | 1999 | 1985 | % |
|----------------------|---------------|--------------------------|-------------------------------|-------------------------------|------------------------|
| | | | TP LOAD DISCH. (LBS/YR) | TP LOAD DISCH. (LBS/YR) | CHANGE FROM 1985 |
| 1 | Newport News | Fort Eustis STP | 3,090 | 32,150 | -90% |
| 2 | Chesterfield | Falling Creek STP | 21,390 | 209,280 | -90% |
| 3 | Richmond | Richmond STP | 89,120 | 839,070 | -89% |
| 4 | Petersburg | So. Central W.W.A. STP | 18,880 | 144,560 | -87% |
| 5 | Chesterfield | Philip Morris | 7,920 | 60,580 | -87% |
| 6 | Newport News | HRSD-Boat Harbor STP | 57,900 | 260,550 | -78% |
| 7 | Hopewell | Hopewell STP | 38,990 | 175,440 | -78% |
| 8 | Newport News | HRSD-James River STP | 53,990 | 226,630 | -76% |
| 9 | Chesterfield | Brown & Williamson | 3,380 | 13,600 | -75% |
| 10 | Norfolk | HRSD-Army Base STP | 51,860 | 177,940 | -71% |
| 11 | Alleghany | Covington STP | 13,990 | 37,410 | -63% |
| 12 | Chesterfield | DuPont-Spruance | 8,430 | 22,230 | -62% |
| 13 | James City | HRSD-Williamsburg STP | 43,350 | 112,440 | -61% |
| 14 | Rockbridge | Lexington STP | 6,660 | 16,950 | -61% |
| 15 | Clifton Forge | Clifton Forge STP | 9,370 | 22,210 | -58% |
| 16 | Buena Vista | Buena Vista STP | 15,520 | 36,630 | -58% |
| 17 | Portsmouth | Clariant Corp. | 260 | 530 | -51% |
| 18 | Norfolk | HRSD-VIP STP | 101,010 | 200,610 | -50% |
| 19 | Chesterfield | Proctors Creek STP | 32,160 | 63,120 | -49% |
| 20 | Lynchburg | Lynchburg STP | 121,990 | 196,310 | -38% |
| 21 | Suffolk | HRSD-Nansemond STP | 83,570 | 133,180 | -37% |
| 22 | Albemarle | RWSA-Moores Creek STP | 73,570 | 90,860 | -19% |
| 23 | Prince Edward | Farmville STP | 7,050 | 6,000 | 18% |
| 24 | Alleghany | Westvaco | 27,930 | 20,110 | 39% |
| 25 | Hopewell | AlliedSignal-Hopewell | 50,560 | 29,320 | 72% |
| 26 | Rockbridge | Lees Commercial Carpet | 66,420 | 37,870 | 75% |
| 27 | Hanover | Tyson Foods-Glen Allen | 480 | 140 | 243% |
| 28 | Campbell | BWX-Tech NNFD | 1,610 | 410 | 293% |
| 29 | Bedford | Georgia-Pacific | 159,720 | 32,120 | 397% |
| 30 | Henrico | Henrico STP ¹ | 153,050 | NA | NA |
| Basin Total = | | | 1,323,220 | 3,605,100² | -63% |

NOTES:¹ Henrico STP is a new facility; it's 1985 load is accounted for in the Richmond figure.² The 1985 Basin Total includes loads from treatment plants that have since gone off-line.

Table C-8. James River Basin 1999 Point Source Nitrogen Discharge Inventory

| RANK | LOCATION | FACILITY | 1999 | 1985 | % |
|----------------------|---------------|--------------------------|-------------------------------|-------------------------------|------------------------|
| | | | TN LOAD DISCH. (LBS/YR) | TN LOAD DISCH. (LBS/YR) | CHANGE FROM 1985 |
| 1 | Portsmouth | Clariant Corp. | 8,400 | 99,050 | -92% |
| 2 | Hopewell | AlliedSignal-Hopewell | 996,550 | 4,460,620 | -78% |
| 3 | Hopewell | Hopewell STP | 1,399,760 | 6,101,060 | -77% |
| 4 | Hanover | Tyson Foods-Glen Allen | 32,760 | 132,470 | -75% |
| 5 | Campbell | BWX-Tech NNFD | 215,540 | 728,250 | -70% |
| 6 | Chesterfield | Falling Creek STP | 244,360 | 767,860 | -68% |
| 7 | James City | HRSD-Williamsburg STP | 275,420 | 632,010 | -56% |
| 8 | Chesterfield | Brown & Williamson | 23,850 | 49,350 | -52% |
| 9 | Petersburg | So. Central W.W.A. STP | 278,510 | 513,180 | -46% |
| 10 | Norfolk | HRSD-VIP STP | 802,590 | 1,336,790 | -40% |
| 11 | Richmond | Richmond STP | 1,524,050 | 2,462,870 | -38% |
| 12 | Newport News | Fort Eustis STP | 58,530 | 93,930 | -38% |
| 13 | Lynchburg | Lynchburg STP | 336,680 | 460,840 | -27% |
| 14 | Newport News | HRSD-Boat Harbor STP | 923,870 | 1,077,400 | -14% |
| 15 | Buena Vista | Buena Vista STP | 93,660 | 107,020 | -12% |
| 16 | Alleghany | Covington STP | 104,620 | 109,300 | -4% |
| 17 | Chesterfield | DuPont-Spruance | 177,230 | 183,890 | -4% |
| 18 | Rockbridge | Lexington STP | 49,850 | 49,520 | 1% |
| 19 | Norfolk | HRSD-Army Base STP | 806,490 | 773,450 | 4% |
| 20 | Clifton Forge | Clifton Forge STP | 70,070 | 64,890 | 8% |
| 21 | Suffolk | HRSD-Nansemond STP | 638,030 | 509,130 | 25% |
| 22 | Newport News | HRSD-James River STP | 843,100 | 631,100 | 34% |
| 23 | Albemarle | RWSA-Moores Creek STP | 414,720 | 308,690 | 34% |
| 24 | Chesterfield | Philip Morris | 206,520 | 152,500 | 35% |
| 25 | Chesterfield | Proctors Creek STP | 240,320 | 176,620 | 36% |
| 26 | Alleghany | Westvaco | 770,390 | 554,760 | 39% |
| 27 | Rockbridge | Lees Commercial Carpet | 56,660 | 24,380 | 132% |
| 28 | Prince Edward | Farmville STP | 52,720 | 18,000 | 193% |
| 29 | Bedford | Georgia-Pacific | 280,590 | 54,960 | 411% |
| 30 | Henrico | Henrico STP ¹ | 1,426,070 | NA | NA |
| Basin Total = | | | 13,351,910 | 23,981,000² | -44% |

NOTES:¹ Henrico STP is a new facility; it's 1985 load is accounted for in the Richmond figure.² The 1985 Basin Total includes loads from treatment plants that have since gone off-line.

Table C-9. Coastal Basin 1999 Point Source Phosphorus Discharge Inventory

| RANK | LOCATION | FACILITY | 1999 | 1985 | % |
|----------------------|----------------|-------------------------------|-------------------------------|-------------------------------|------------------------|
| | | | TP LOAD DISCH. (LBS/YR) | TP LOAD DISCH. (LBS/YR) | CHANGE FROM 1985 |
| 1 | Virginia Beach | HRSD-Ches/Eliz STP | 105,570 | 284,140 | -63% |
| 2 | Accomack | Tangier STP | 450 | 1,170 | -62% |
| 3 | Northumberland | Reedville STP | 280 | 580 | -52% |
| 4 | Mathews | Mathews Courthouse STP | 280 | 580 | -52% |
| 5 | Accomack | Onancock STP | 1,850 | 2,140 | -14% |
| 6 | Lancaster | Kilmarnock STP | 2,920 | 3,310 | -12% |
| 7 | Accomack | Tyson-Temperanceville | 45,500 | 36,530 | 25% |
| 8 | Northampton | Cape Charles STP ¹ | 1,080 | NA | NA |
| Basin Total = | | | 157,930 | 330,800² | -52% |

Table C-10. Coastal Basin 1999 Point Source Nitrogen Discharge Inventory

| RANK | LOCATION | FACILITY | 1999 | 1985 | % |
|----------------------|----------------|-------------------------------|-------------------------------|-------------------------------|------------------------|
| | | | TN LOAD DISCH. (LBS/YR) | TN LOAD DISCH. (LBS/YR) | CHANGE FROM 1985 |
| 1 | Lancaster | Kilmarnock STP | 2,430 | 9,680 | -75% |
| 2 | Accomack | Tangier STP | 3,400 | 3,420 | -1% |
| 3 | Accomack | Tyson-Temperanceville | 331,760 | 277,400 | 20% |
| 4 | Northumberland | Reedville STP | 2,120 | 1,710 | 24% |
| 5 | Virginia Beach | HRSD-Ches/Eliz STP | 1,346,220 | 995,790 | 35% |
| 6 | Mathews | Mathews Courthouse STP | 2,680 | 1,710 | 57% |
| 7 | Accomack | Onancock STP | 13,810 | 6,260 | 121% |
| 8 | Northampton | Cape Charles STP ¹ | 8,110 | NA | NA |
| Basin Total = | | | 1,710,530 | 1,302,790² | +31% |

NOTES:¹ Cape Charles STP was not in service in 1985, therefore no loads are available for comparison.² The 1985 Basin Total includes loads from treatment plants that have since gone off-line.